REMARKS

Reconsideration and allowance of this application are respectfully requested. Claims 60, 70, 73, 87 and 99 have been amended. Claims 60-83, 85-87, 89, 90 and 94-99 remain pending in the application. Applicant reserves the right to pursue the original claims and other claims in this application and in other applications.

Claims 60-72 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Fan et al. (U.S. Patent 6,171,833) ("Fan") in view of Akio (U.S. Patent 5,691,548), Osawa et al. (U.S. Patent 6,071,443) ("Osawa") and Fossum (U.S. Patent 5,887,049). Reconsideration is respectfully requested.

The asserted combination of references would not have rendered obvious the embodiments of the invention defined by any of the rejected claims. The claimed invention would not have been obvious because there is no suggestion or motivation, either in the references or in the knowledge generally available to one of ordinary skill in the art, to combine reference teachings to attain the claimed invention. Furthermore, none of the references, whether considered alone or in combination, teaches or suggests all limitations of the claimed invention.

Fan refers to an image array device (Fig. 2) that has patterned microlenses 24 and an encapsulant layer 25. (Col. 7, lines 1-10; col. 8, lines 45-56). The encapsulant layer 25 in the Fan device is formed of almost any material "to a thickness of about 1000 angstroms" (col. 10, lines 18-20) or "as thin as practicable while still providing desirable functionality conformally encapsulating exposed surfaces of the series of patterned microlens layers" (col. 8, lines 60-63). The encapsulant layer 25 is subsequently thermally annealed and photochemically cured. (Col. 10, lines 20-25). The crux of the Fan patent is enhanced

optical stability. The encapsulant layer of Fan merely "inhibits optical degradation of the patterned microlens layer." (Col. 3, lines 8-9).

Claim 60 recites a "method of forming a microlens array for use in an imaging device" by *inter alia* "forming a radiation transparent insulation layer on said microlens array for increasing the proportion of radiation incident on said pixel sensor cells by *extending the light-capturing capabilities beyond a periphery area surrounding each individual microlens* of said microlens array." (Emphasis added). Neither Fan nor any of the other prior art cited in the Office Action discloses or suggests the insulation layer of claim 60, which is formed "for increasing the proportion of radiation incident on said pixel cells." The insulation layer "includes silicon insulator material." While Fan does teach an insulation layer 25, its purpose is to inhibit optical degradation of the microlens layer beneath it and may be arbitrarily deposited by any method, including chemical vapor deposition methods, plasma enhanced chemical vapor deposition methods, physical vapor deposition methods and spin coating methods. (Col. 8, lines 50-56). The only limitation to the Fan insulation layer 25 is that it is *as thin as practicable* and that it has an index of refraction less than that of the microlens layers 24a, 24b, 24c and 24d. (Col. 9, lines 1-6).

Contrary to the Office Action, which states that the disclosed processes of Fan "would obtain the recited results of claim 60 because the same materials are treated in the same manner as in the instant invention" (page 3), the step of making the insulation layer 25 of Fan *is not the same* as the step of forming the radiation transparent layer 72 of the present invention. Fan is entirely silent on forming an insulation layer including silicon insulator materials *for the purpose of increasing the proportion of radiation incident* on the pixel cells.

Fan also fails to teach or suggest that the insulation layer 25 increases the light-gathering capabilities beyond the periphery of the lenses 24a, 24b, 24c and 24d. In fact, the Fan insulation layer 25 being formed "as thin as practicable" would appear to teach away from

the insulation layer 72 of the claimed invention (which is formed such that it captures more incident light from beyond the periphery of the lens). Moreover, there is no description in the Fan specification stating that there is necessarily a space between the lenses, which would be a required feature in order for a periphery area to exist. While the drawings seem to suggest a periphery area surrounding the lenses, these drawings are merely illustrative of the patterned microlens layer and are not drawn to scale, and the specification provides no clarification that the spaces between the lenses do, in fact, exist. Consequently, claim 60 should be considered allowable over the prior art of record.

Claims 73-83 and 85-86 stand rejected under U.S.C. § 103(a) as being unpatentable over Fan in view of Akio and Osawa. Claims 87, 89, 90 and 94-98 stand rejected under U.S.C. § 103(a) as being unpatentable over Fan in view of Akio and Fossum. Claim 99 stands rejected under U.S.C. § 103(a) as being unpatentable over Fan in view of Akio. Reconsideration is respectfully requested.

Independent claims 73, 87 and 99 have been similarly amended and should be allowable for reasons corresponding to those discussed above in connection with claim 60. Claims 61-72 depend from claim 60; claims 74-83, 85 and 86 depend from claim 73; and claims 89, 90 and 94-98 depend from claim 87. The aforementioned dependent claims should be allowable along with the respective independent claims, and for other reasons.

Applicant's representative also notes that claim amendments similar to those made in the present divisional application were made in the parent application, Rhodes Application No. 09/357,168, and resulted in allowance of all claims and issuance of U.S. Patent No. 6,307,243 on October 23, 2001.

For at least the above reasons, reconsideration and withdrawal of each of the rejections under § 103 are respectfully requested.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

Dated: August 21, 2003

Respectfully submitted,

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